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ABSTRACT

The validity of the theory of crucial similarity in language interference is investigated. The theory proposes that when a first and a second language are structurally similar in some aspects, the second language learner will assume similarity in other aspects, causing interference. In this study, the German of first grade students whose teacher was a Standard German speaker was compared with the German of second grade students who had previously been taught by the same first grade teacher but whose second grade teacher spoke the Swabian dialect. Error patterns in phonology and morphology, the two areas of greatest difference between Standard and Swabian German, were found to be attributable to either developmental differences or to interference due to crucial similarity. More errors were attributable to interference in phonology than in morphology. According to the theory of crucial similarity, the errors attributable to interference will also persist over time. (MSE)

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INTERFERENCE RECONSIDERED: THE ROLE OF SIMILARITY IN SECOND LANGUAGE ACQUISITION

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INTERFERENCE RECONSIDERED:
THE ROLE OF SIMILARITY IN SECOND LANGUAGE ACQUISITION

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Similarity between the first and second languages is rarely mentioned in the literature as a factor causing interference, but viewed soley as a facilitator. In the following, I will show that interference is responsible for most errors in a learning situation where the first and second language approach a "crucial" similarity.

In 1957, Lado[1] described the acquisition of a second language as the substitution of one set of habits for another. Interference occurs when old habits are not extinguished and substitution of the new structure is blocked. The result is error. This Contrastive Analysis Hypothesis (CAH) claimed to predict where difficulties would arise by contrasting the first and second languages to analyze the differences. Convergent contrasts were predicted to be easier to learn than divergent ones. Thus, the English speaker learning grammatical gender in German will experience difficulties, while the German speaker learning English will experience markedly fewer, since the three genders converge to one form in English. Difficulty was also predicted on the basis of contrasting phoneme distribution and new elements or modes in the second language.

In reference to similarity, Lado claimed that those structures similar in the first and second languages would be easy to learn, that is, positive transfer from the first language facilities acquisition. While I do not contest that a similar second language will be acquired more quickly, it is seldom the case that the first and second language structures are 100% identical, so the learner will typically fail to reach the target norm entirely.

Since 1957, the notion of interference as the prime source of error has been rejected to varying degrees. In 1974 Ervin-Tripp[2] published the results of an empirical study of English-speaking children learning French in an attempt to show that the prime source of error lies in developmental processes much the same as those engaged in first language acquisition. Ervin-Tripp found cases where her learners ignored the opportunity to transfer positively English passive construction to the parallel French construction, illustrating the likelihood that the learners were following a developmental sequence for French and had not yet reached the level at which they could acquire the passive.

Much of the work following Ervin-Tripp has focused on the role of developmental processes in second language acquisition. Interference has been relegated to an unimportant position, in part because of its theoretical roots in behavioristic psychology. The acquisition of language--first or second--is no longer seen as the learning of habits, but rather as the unfolding of innate predispositions. In examining errors in second language acquisition within this framework, the researcher uses as a posteriori error analysis under which errors in the data are (1) identified, (2) tabulated, and (3) classified according to their source. Although such an approach is helpful in the description of second language processes, an a priori, predictive theory to replace the CAH would be ideal.

There have been several attempts to arrive at such a predictive theory. Eckman (1977)[3] elaborated on the CAH by incorporating the notion of markedness. Other suggestions have come from brief references to similarity. Wode, who has continuously maintained that learners acquire a second language through the filter of their first language while following developmental sequences, proposed the Crucial Similarity Measure (CSM) in 1976. Based on his work in German and English, the CSM states: "Only if the first and second languages have structures meeting a crucial similarity will there be interference."[4] However, to what exactly does "similarity" refer? To typological similarity as defined by the linguist, or to psychological similarity, as perceived by the learner? The two should be one and the same, if the linguist's claim that formal linguistics represents what the speaker knows about language is to be upheld. "Crucial" is not defined by Wode, although several other theorists have suggested conditions under which interference or transfer due to similarity occurs.[5] Oller (1972) required that "Items must be functionally identical on at least some of the cognitive dimensions used for storage to be transferred."[6] Extending this, the tendency to transfer, either postively or negatively, may be seen to increase with each successive level at which items are parallel or identical. In cases where identity is not 100%, the target norm will not be reached by the learner. For example, if structures are identical at the syntactic, morphological, and phonological levels, but not at the semantic level, the structure will be acquired rapidly, but semantic errors will be present. The learner will assume that the first and second language structures are also identical at the semantic level.

To weigh the validity of the Crucial Similarity Measure, I tested learners at two levels of the grammar to investigate possible variable effects of similarity. Phonology was chosen as one of the levels to test at on the basis of findings suggesting that acquisition at this level proceeds differently than at other levels of the grammar.[7] Morphology was chosen because the first and second languages (Swabian and Standard German) differ more at this level than at the syntactic and semantic levels.

While highly similar, Swabian and Standard German differ enough to be regarded as almost mutually unintelligible. Swabian is the German dialect spoken in southwestern West Germany. Standard German is the media and official dialect of all German-speaking countries and populations around the world and is spoken as a native language in north central West Germany. Swabian speakers begin their active acquisition of Standard German (apart from exposure through television and radio) in the first grade, where lessons are conducted in Standard German, although in informal situations Swabian may continue to be spoken. Varying levels of ultimate attainment in Standard German are reached, coinciding with the social and economic level of the speakers. Blue collar workers speak either no Standard German or heavily accented Standard German; white collar workers speak moderately accented Standard German; and professionals, particularly those employed outside the Swabian-speaking area, speak minimally accented or perfect Standard German.

To gather data, twelve first and second grade children south of Tübingen in central Baden-Württemberg were tested. The first graders' teacher was a native speaker of Standard German from the Hannover area. All second graders had been taught by her the previous year. The second grade teacher spoke the Standard

German of white collar workers, that is, with a moderate Swabian accent. Her accent included two phonological characteristics of Swabian (as well as of other southern dialects) which are rarely absent from the Standard German of Swabian speakers at any level. The word for "sock" illustrates this: in Standard German it is [zɔkə], however, in Swabian accented Standard German it is [sɔkɛ], because there is no initial [z] in Swabian and no final [ə] (unless derived by a rule)[8]. All children tested showed evidence of this rule.

Children were tested using a series of pictures about which they were asked questions to elicit examples of nominal, adjectival and verbal morphology. The same data were used to determine phonological errors. All questions given by the experimenter and answers from the children were tape recorded and transcribed by the experimenter and then checked by two bi-dialectal linguists. Because Standard German seems to be perceived by speakers both as a second language/dialect and a style register, children were made aware that they were being tested on their ability to speak Standard German. Previous classroom had shown that children switched to Swabian not only when conversing with peers, but also when subjectively relating events in more formal situations. Even during testing, children often switched to Swabian entirely when the questioning became subjective. Such responses were omitted from the data.

Both Swabian and Standard German have three grammatical genders which are marked on the article or adjectival suffix: masculine, feminine and neuter. One phrase structure rule applies to both Swabian and Standard German. The following depicts this:

NP →	(ART)	–	(ADJ + suffix)	–	N	(+ suffix)	(+ suffix)
	case		case			plural	*dative plural
	number		number			*genitive	
	gender		gender				
	definite/ indefinite		weak/strong/mixed				

*occurs only in Standard German

Nominal and adjectival morphology in Swabian differ from Standard German in actual form, for example, the Standard German nominative is: der (masculine), die (feminine), das (neuter) and the Swabian nominative is: dr (masculine), d (feminine), s (neuter). Standard German has four cases: nominative, dative, accusative and genitive, while Swabian lacks the genitive and overt accusative (nominative and accusative are identical in form).

The areas of morphology tested revealed typcial error patterns for all twelve children. Only 9 percent of errors made involved verbal morphology, while errors committed in nominal and adjectival morphology comprised 69 percent of all errors. Those errors which could be traced to interference from Swabian took one of three forms: complete substitution of the Swabian form, partial substitution of the Swabian form, or application of the Swabian rule without substitution of the Swabian form. The following examples show each of these forms.

(Standard German)← eine Hose (Error) ← e Hos (Swabian) ← e Hos

'trousers'

This error of complete substitution was located in the context of a Standard German utterance and therefore was tabulated as an error rather than regarded as a switch to Swabian. Partial substitution is shown in the following example:

(Standard German) ← die roten Blumen (Error) ← die rote Blumen

(Swabian) ← d rode Blume 'the red flowers'

Finally, application of the Swabian rule, where the learner makes no distinction between the nominative and accusative, yet does not substitute the Swabian form, can be seen in this example:

(Standard German) ← den Mantel (Error) ← der Mantel (Swabian) ← dr Mantel

'the coat' (accusative)

In this study, it was necessary to establish criteria for identifying error source. This involved consideration of errors from three groups of Standard German learners. Developmental errors were described as errors which parallel those made by learners of Standard German as a first language or resemble errors made by native speakers of any of the languages unrelated to German and occur regularly for all learners. Interference-based errors reveal the influence of first language rules or show substitution of first language forms. Studies done of speakers of other German dialects learning Standard German show clear interference from those dialects and errors made by such speakers differ from interference-based errors made by Swabian speakers.[9]

When errors could be traced to developmental processes (23% of all morphological errors), this was the result of missing elements, uninflected forms or incorrect plural formation. Regarding plural formation, Swabian and Standard German differ in that Standard German has eight forms, while Swabian has only five. The suffixes themselves also differ phonologically. Children made errors of the following type:

(Standard German) ← Töchter (Error) ← Tochtern (Swabian) ← Dechder [10]

'daughters'

Such an error is typical of children learning Standard German as a first language, in that the suffix -n is frequently over-generalized in plural formation.

Could the Crucial Similiarity Measure have predicted these errors? I believe so. Since the Swabian and Standard German structures are identical at all levels but two, morphological and phonological (and here they are highly similar), the potential for interference is very high. The fact that children's plural errors were often not the result of interference may be attributable to the forms tested. Since Tochter (see footnote 10) is not a Swabian word, that is one less level at which the structures are identical. It may also be that children are still acquiring plurals in Swabian and are therefore prone to developmental error in this area of morphology.

Six phonological rules were tested, of which two will be examined here. Standard German has a rule which renders all tense vowels long, while lax vowels remain short:

$$V \rightarrow [+long] / \underset{[+tense]}{_____}$$

In Swabian, tense vowels and lax vowels may be either long or short. Errors children made were of this sort, where lax vowels are long and tense vowels short:

(Standard German)←[ʁe:gənbo:gən] (Error)←[ʁɛ:gebo:ge] (Swabian)←[ʁɛ:gəbo:gə]

'rainbow'

Another rule involves the voicing or lenition of stops in Swabian[11]:

$$\begin{bmatrix} -\text{sonorant} \\ +\text{continuant} \\ +\text{anterior} \end{bmatrix} \rightarrow [+\text{voice}] / \underline{\quad\quad} \begin{Bmatrix} \# \\ [+\text{sonorant}] \end{Bmatrix}$$

The errors made by the children either showed direct substitution of the lenis Swabian stop or over-generalization of voiceless stops, as in the second example:

(Standard German)← [taše] (Error)← [daše] (Swabian)← [daš]

'pocket'

(Standard German)← [blau] (Error)← [plao] (Swabian)← [blao]

'blue'

The few phonological errors traceable to developmental processes were those typical of children universally and the result of such rules as consonant cluster reduction.

The following table shows the distribution of developmental and interference errors at both levels tested:

Phonological			Morphological		
total	developmental	interference	total	developmental	interference
441	12	429	193	45	148
%	3%	87%		23%	73%

It is interesting to note that similarity seems to play less of a facilitative role at the phonological level than it does at the morphological level, since the error count for phonology is 2.3 times that for morphology. Additionally,

15 percent more errors are attributable to interference at the phonological level than at the morphological level. Swain's (1976)[12] claim that while interference is not the only source of error, it is nevertheless the major source of persistence of error, has implications for this study. Although learners of a second language similar to their first will progress rapidly, most of their errors will be attributable to interference. If Swain's claim is valid, these interference-based errors will persist. Since most errors in such a learning situation are due to interference, most errors committed will persist over time.

Swabian and Standard German represent a learning situation in which the two languages are highly similar. However, a crucial degree of similarity exists in many other learning situations, such as English/German or English/Dutch as well as Spanish/French or Spanish/Italian. The teacher can best aid the learner in his/her understanding that, while second language learning is like first language learning in that many errors made by the learner are developmental and will eventually disappear over time, those errors due to interference from a crucially similar first language will tend to persist if the learner's attention is not drawn to these errors.

Notes

[1]Robert Lado, Linguistics Across Cultures (Ann Arbor: University of Michigan Press, 1957).

[2]Susan Ervin-Tripp, "Is Second Language Learning Like the First?" TESOL Quarterly 8, (1974): 111-128.

[3]Fred Eckman, "Markedness and the Contrastive Analysis Hypothesis," Language Learning 27: 2 (1977): 315-330.

[4]Hennig Wode, "Developmental Sequences in Naturalistic Second Language Acquisition," Working Papers on Bilingualism 11, (1976): p. 31.

[5]See Helmut Zobl, "The Formal and Developmental Selectivity of First Language Influence on the Second Language," Language Learning 30, (1980): 43-57.

[6]John W. Oller, "Transfer and Interference as Special Cases of Induction and Substitution," Linguistics 89, (1972): 24-33.

[7]See Georgette Ioup, "Is There a Structural Foreign Accent - A Comparison of Syntactic and Phonological Errors in Second Language Acquisition," Language Learning 34, (1984): 1-17.

[8]There are several morphophonemic rules which result in the final schwa appearing on the surface. For example, in the verbal paradigm, the infinitive loses its /n/.

[9]See Kurt Egger, "Morphologie und Syntaktische Interferenzen an der Deutsch-Italienischen Sprachgrenze in Südtirol" In: P. Sture Ureland, ed. Standardsprache und Dialekte in Mehrsprachigen Gebieten Europas (Tübingen: Niemeyer, 1978) 55-104.

[10]From the singular Tochter, although this is not a Swabian word. The word for daughter in Swabian is the word for girl: Mädle.

[11]See Arno Ruoff. Mundarten in Baden-Württemberg (Stuttgart: Landesbildstelle Württemberg, 1983).

[12]Merrill Swain, "Changes in Errors - Random or Systematic?" In:Gerhard Nickel, ed. Proceedings of the Fourth International Congress of Applied Linguistics (Stuttgart: Hochschulverlag, 1976).